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# Overview

- How the System Works
- How the System Managed
- How the Game is Animated



# HOW THE SYSTEM WORKS



How the System Works

# THE 2D GAME





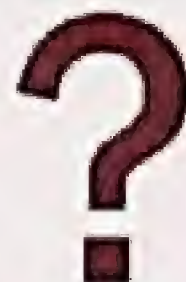
EXIT



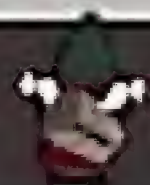
PHASE 1   PHASE 2   PHASE 3

---

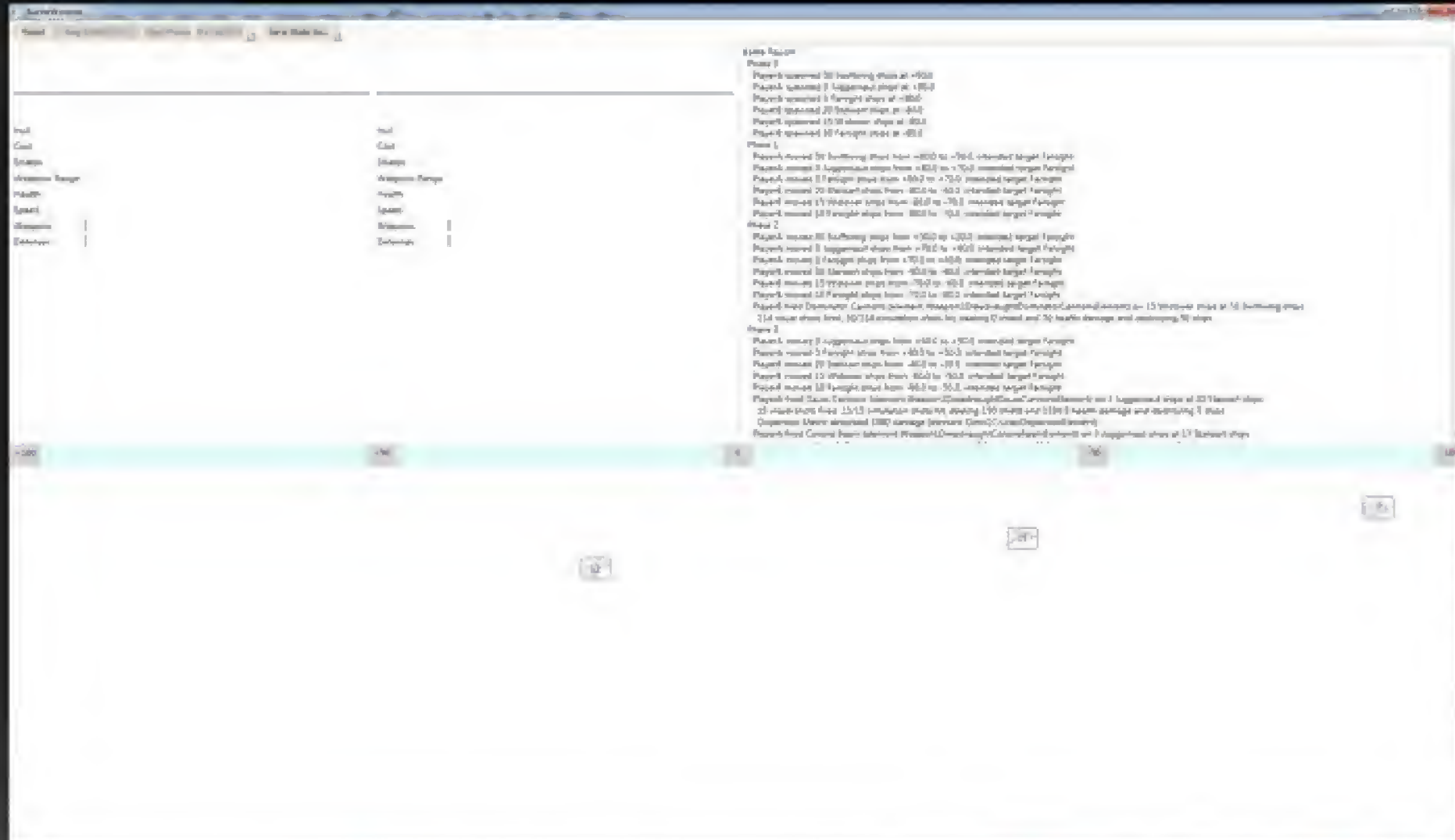
Collect  
underpants



Profit



# Holodeck



How the System Works

# SHOT PLANNING & CREATION





## ➤ *Data Parsing Issues*

- Overall the parsing system worked, but not to the full extent we intended.
- Map emotional graph to:
- Lighting styles
- Camera angles
- Action selection.
- Read the overall game progress and take into context.





## The Classic Story Formula



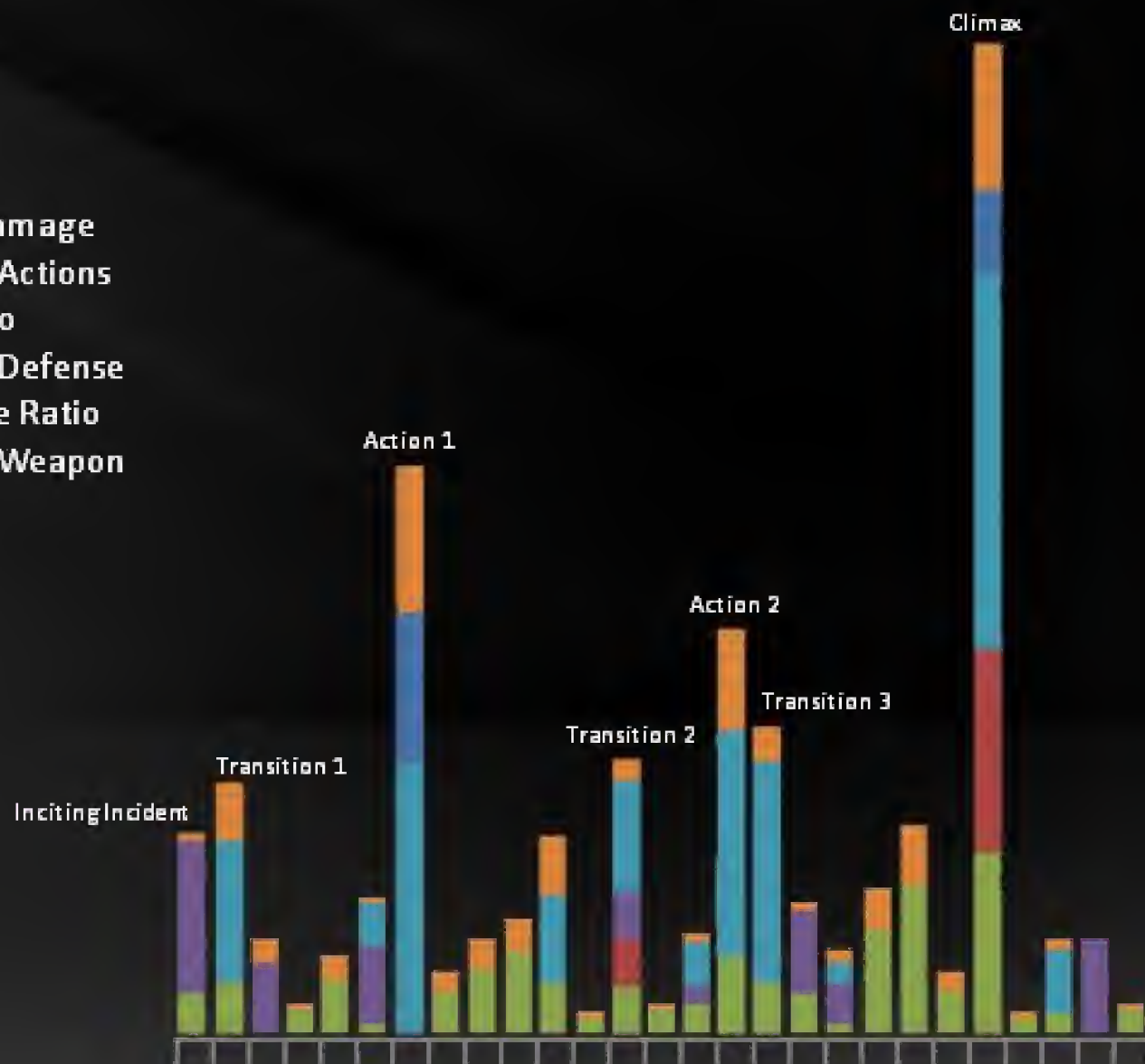
```

<?xml version="1.0"?>
<BattleScript xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" ScriptVersionNumber="7">
  <FleetDescriptions>
    <FleetDescription PlayerID="Player A" Species="0">
      <Take nDescriptions>
        <Take nDescription Take nID="Take_n_1e47977fd317~481-b600-24c11bd6215" Hull="Strike r" HullVariation="1" InitialPopulation="282">
          <Attachments>
            <AttachmentDescription Name="Light Flek Cannon" Category="Ballistic" ModeIDName="Strike_r_ballistic_light" />
          </Attachments>
        </Take nDescription>
        <Take nDescription Take nID="Take_n_3c92c346-2065-442c-8c30-929c437c77cb" Hull="Destroyer" HullVariation="2" InitialPopulation="80">
          <Attachments>
            <AttachmentDescription Name="Thrasher Flek Cannons" Category="Ballistic" ModeIDName="Destroyer_ballistic_light" />
            <AttachmentDescription Name="Cloaking Device" Category="Cloaking" ModeIDName="Species" />
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        </Take nDescription>
        <Take nDescription Take nID="Take_n_b02e3350-e67c-404b-a78-79c83464081" Hull="Cruiser" HullVariation="0" InitialPopulation="10">
          <Attachments>
            <AttachmentDescription Name="Hard-Light Beam" Category="Beam" ModeIDName="Cruiser_beam_light" />
            <AttachmentDescription Name="Damage Amplifier" Category="Damage Boost" ModeIDName="Species" />
            <AttachmentDescription Name="Defensive Warp" Category="Warping" ModeIDName="Species" />
          </Attachments>
        </Take nDescription>
        <Take nDescription Take nID="Take_n_41e3c2ad-a72d-4c08-87c3-bade5a755084" Hull="Battleship" HullVariation="1" InitialPopulation="3">
          <Attachments>
            <AttachmentDescription Name="Corona Beam" Category="Beam" ModeIDName="Turret_beam_heavy" />
            <AttachmentDescription Name="Gauss Cannons" Category="Ballistic" ModeIDName="Turret_ballistic_heavy" />
            <AttachmentDescription Name="Cloaking Device" Category="Cloaking" ModeIDName="Species" />
            <AttachmentDescription Name="Damage Amplifier" Category="Damage Boost" ModeIDName="Species" />
            <AttachmentDescription Name="Hard-Light Shield" Category="Shield" ModeIDName="Species" />
          </Attachments>
        </Take nDescription>
      </Take nDescriptions>
    </FleetDescription>
    <FleetDescription PlayerID="Player B" Species="2">
      <Take nDescriptions>
        <Take nDescription Take nID="Take_n_356cbb8b-a11e-4704-b8a1-d441d1c33e96" Hull="Battleship" HullVariation="1" InitialPopulation="2">
          <Attachments>
            <AttachmentDescription Name="Spike Missiles" Category="Missile" ModeIDName="Turret_missile_light" />
            <AttachmentDescription Name="Spike Missiles" Category="Missile" ModeIDName="Turret_missile_light" />
            <AttachmentDescription Name="Energy Shield" Category="Shield" ModeIDName="Species" />
            <AttachmentDescription Name="Hardened Shield" Category="Shield" ModeIDName="Species" />
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      </Take nDescriptions>
    </FleetDescription>
  </FleetDescriptions>
</BattleScript>

```

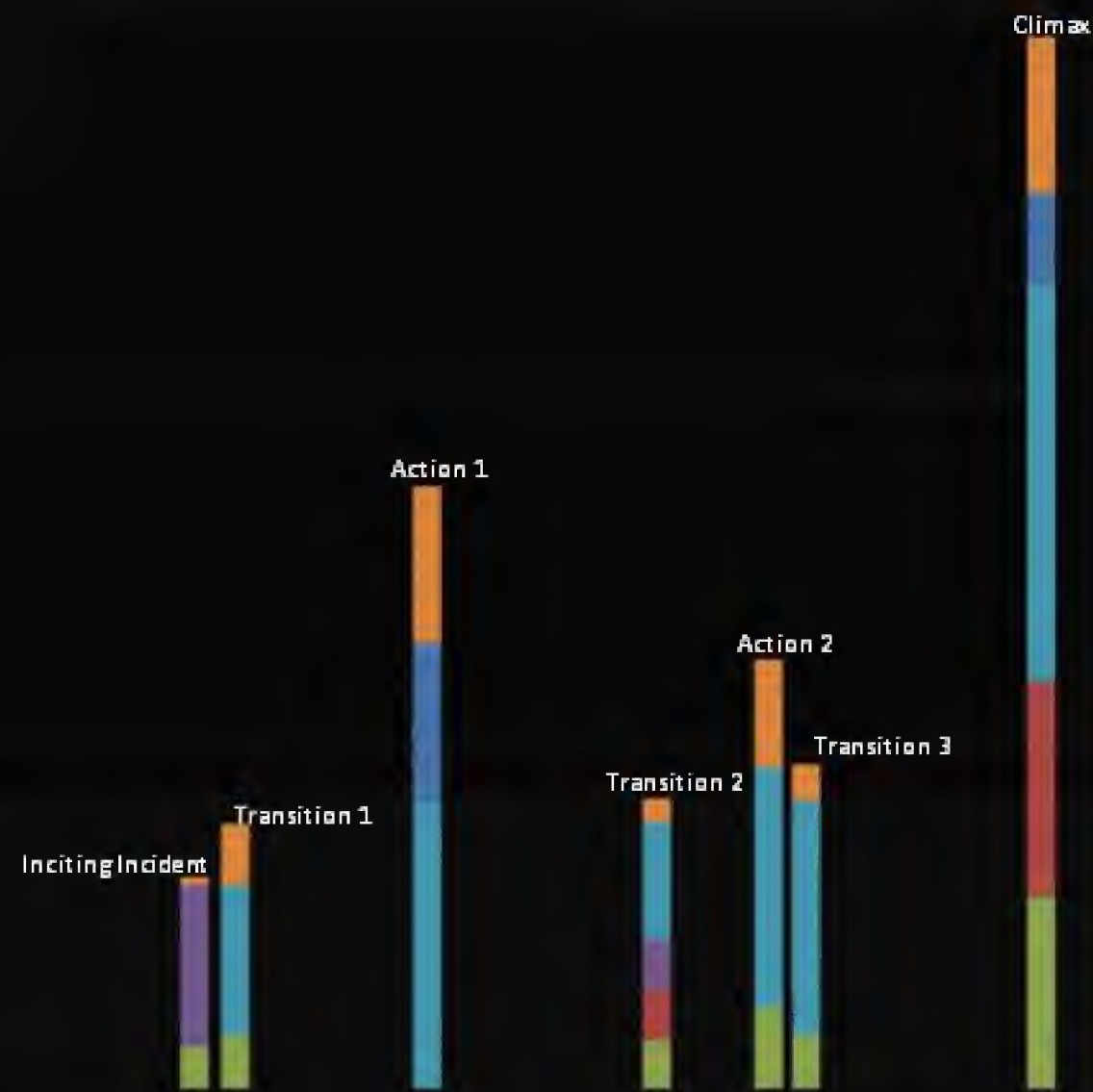


- Fleet Damage
- Special Actions
- Kill Ratio
- Special Defense
- Damage Ratio
- Special Weapon





# 120-Act Play



How the System Works

# CINEMATIC GAME ENGINE



Direct X 11

Packaging



Tool Suite

Initialization

**HEXANE<sup>®</sup>**  
GAME ENGINE

# The Cloud

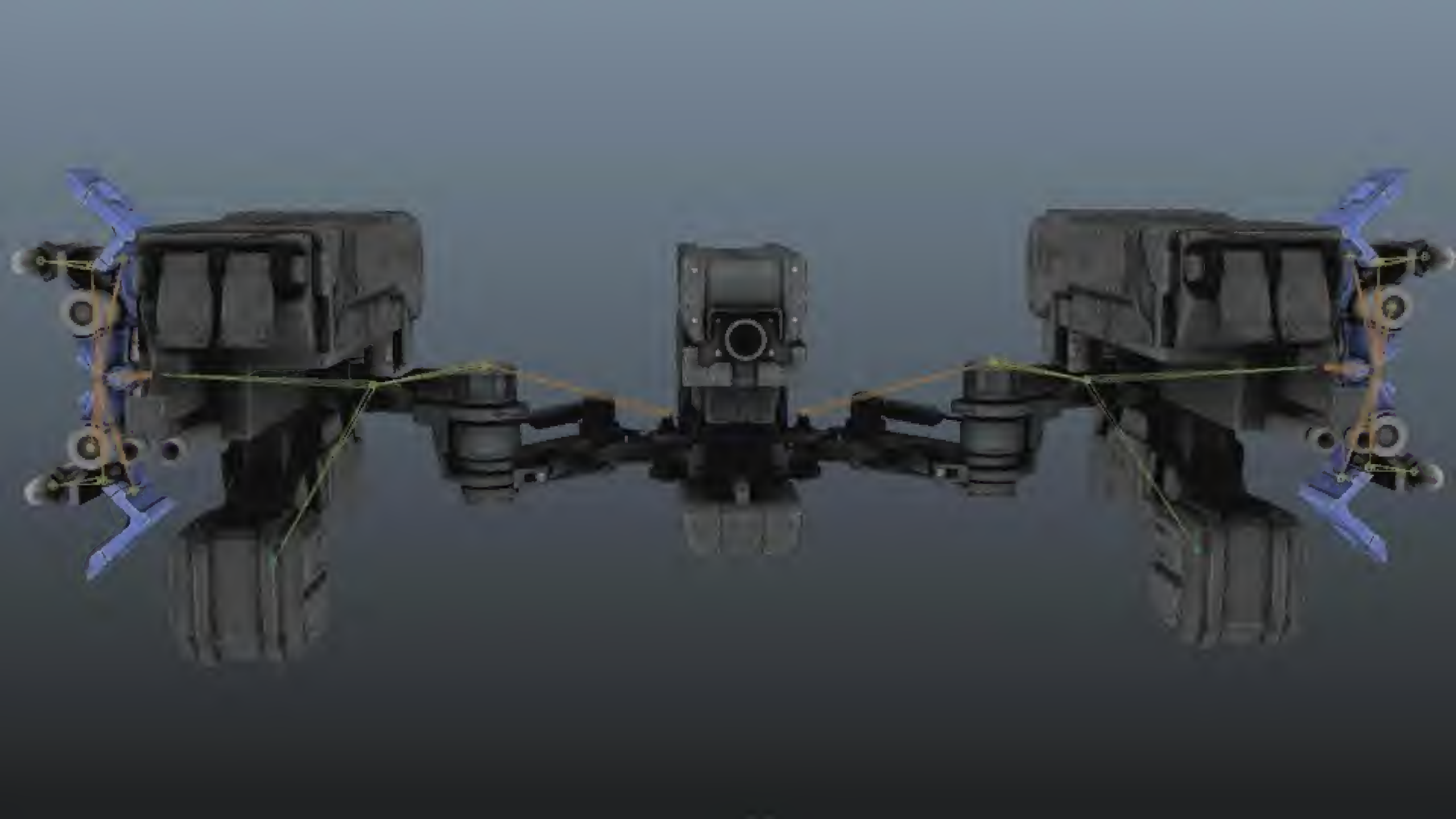
- Cloud Operation
- Cloud Configuration
- Cloud File Serving



Windows Azure

# Art Content

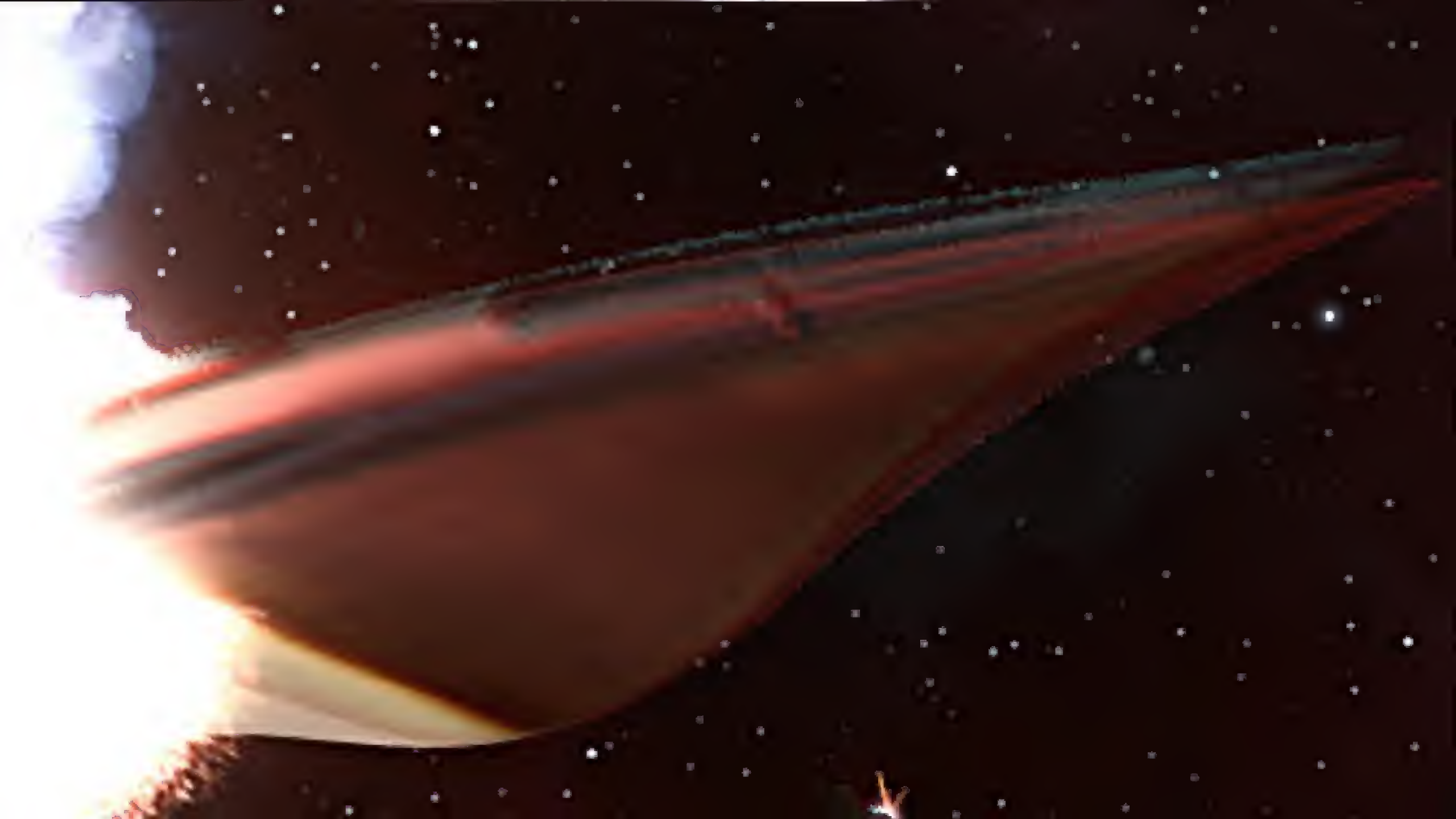
- Ships
- VFX
- Environments
- Post Effects













# Rendering & Encoding

- Audio Mixing
- Pre/Post Roll
- Encoding & Delivery

Microsoft®  
**DirectX<sup>®</sup>11**

# HOW THE SYSTEM MANAGED



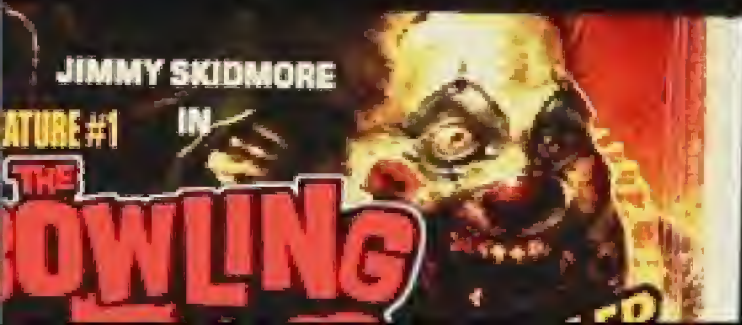
# Check In & Build

07:07:33	Build Armada PCRelease studio Sorted stdout studio with summary	Build Armada PC64Release studio Sorted stdout studio with summary			Build Server ServerDebug studio	
07:07:12					Build Armada PCShip studio Sorted stdout studio with summary	Build Viewer PC64Release studio Sorted stdout studio with summary
07:06:30						Build viewer projects and solution studio
07:06:12						Build Server ServerDebug studio
						Build Armada PC64Ship studio Sorted stdout studio with summary
07:05:31					Build Armada PCRelease studio Sorted stdout studio with summary	Build Armada PC64Release studio Sorted stdout studio with summary
07:05:29						
07:04:18						
07:03:51						
07:03:25						
	Build Armada PCDebug studio Sorted stdout studio with summary	Build Armada PC64Debug studio Sorted stdout studio with summary	Build Armada pc data studio graph	Build Armada pc64 data studio graph		Build Armada PC64Release studio Sorted stdout studio with summary
07:00:45					Build Armada projects and solution studio	Build Armada projects and solution studio
07:00:35						
					Update Version Number studio	Update Version Number studio
					pc sync to (748004) studio	pc sync to (748004) studio
07:00:01	pc sync to (748004) studio	pc sync to (748004) studio	pc sync to (748004) studio	pc sync to (748004) studio	Build 1770	Build 1930
	Build 844					



# Email / Physical Notification

- Traditional Blame Thrower
- Physical Indication



# Automated Scripts \ Smoke Tests

- Battle Script Creation
- TTY, Debug Capture & Packaging

# Auditioner Page

[Home](#)
[Galactic Reign](#)
[Galactic Reign Video Auditioner Page](#)



## Galactic Reign Video Auditioner Page

Build CL: 749006  
 Build Status: Success  
 Rendering Video: 36/38  
 Videos Failed: 0

Active CL: 749006

```

1. AllMusicGameGame / 100
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```



Building Results: 2013-1-14



# HFS — Http File Server

HFS - HTTP File Server 2.2f Build 155

Menu Port: 80 You are in Expert mode

Open in browser http://2.53716.112/AuditionerMovies/

Top speed: 20274.8 KB/s

Virtual File System

Log

7:02:48 AM 2.53709 2.53709 Requested GET /AuditionerMovies/2013-2-3/CL761218/

7:03:08 AM 2.53713 2.53713 Requested GET /AuditionerMovies/2013-2-3/CL761218/

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7:03:45 AM 2.53716 2.53716 Fully downloaded - 64.78 MB @ 17076 KB/s - /Audition

7:03:48 AM 2.53716 2.53716 Requested GET /AuditionerMovies/2013-2-3/CL761218/

IP	Filename	Status	Speed	Time left	%
2.53716.2.53716	Q8R_720p.mp4	66,902.116 / 73,666...	15432.3 KB/s		90%

Connections: 12 Out: 15432.3 KB/s In: 0.0 KB/s Total Out: 1213.44 GB Total In: 11.70 MB VFS: 2 items



# PHP / Python Backend

- Data Acquisition
- Build Iteration & Display

```

$output = "";
// Build Machine Server Root
$serverRoot = "http://11210112 112/AuditionerMovies/";

// Load Video Information & History File
$videoInfo = parse_ini_string(file_get_contents($serverRoot."TestInfo.ini"), True);

if($videoInfo == false)
{
    $output .= "<div style=' color: red; font-size: 200%; '><center>Unable to Find Server </center></div>";
}

$historyInfofile = $videoInfo[HISTORY][HISTORYINFO];

$historyInfo = parse_ini_string(file_get_contents($serverRoot.$historyInfofile), True);

// Collect Information
$activeCL = $videoInfo[ACTIVE][CL];
$activePlaylist = $historyInfo[$activeCL][VIDEO];

$buildStatus = $videoInfo[BUILD][STATUS];
$buildProgress = $videoInfo[BUILD][PROGRESS];
$buildCL = $videoInfo[BUILD][CL];

$failVideo = $serverRoot.$videoInfo[ERRORS][FALLBACKVIDEO];

$historyDate = $videoInfo[HISTORY][HISTORYDATE];

$failLogFile = $serverRoot.$historyDate."/CL".$buildCL."/Failed.log";

$failLog = "";

// Data mine Fail Logs

$failLogFileHandle = fopen($failLogFile, "r") or exit("Unable to open file!");
//Read Lines and get the total line count

```

# Video Cataloging / Player

- Build Playlist
- Review & Presentation

## Galactic Reign Video Auditor Page

Build CL: 749006  
 Build Status: Success  
 Rendering Video: 38/38  
 Videos Failed: 0

Active CL: 749006

0. Build CL: 749006  
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Building Results: 2013-1-14



# Logs and Failure Display

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Event#	EventName	EventID	Team	Category1	Category2	Action1	Parameters1	Action2	Parameters2			
2	1	Info	0	Attack	Adverser	Adverser	C1_deploy_afterburner_01.arm	C1_deploy_afterburner_01	evad01hings01.arm	C4_deploy_afterburn_01			
3	2	Intelligence	1	Attack	Wipe	Wipe	C4_wipe_01.arm	C4_wipe_01	C4_wipe_01.arm	C1_wipe_01			
4	2	Intelligence	2	Attack	Engage	Engage	C4_engage_01.arm	C4_engage_01	C4_engage_01.arm	C1_engage_01			
5	2	Intelligence	3	Attack	Attack	Attack	C4_attack_01.arm	C4_attack_01	C4_attack_01.arm	C1_attack_01			
6	2	Intelligence	4	Defend	Interf	Interf	C1_defend_normal_01.arm	C1_defend_normal_01	C1_defend_normal_01.arm	C1_defend_normal_01			
7	3	Intelligence	5	Attack	Wipe	Wipe	C4_wipe_01.arm	C4_wipe_01	C4_wipe_01.arm	C1_wipe_01			
8	3	Intelligence	6	Attack	Engage	Engage	C4_engage_01.arm	C4_engage_01	C4_engage_01.arm	C1_engage_01			
9	3	Intelligence	7	Defend	Interf	Interf	C1_defend_normal_01.arm	C1_defend_normal_01	C1_defend_normal_01.arm	C1_defend_normal_01			
10	3	Intelligence	8	Attack	Interf	Interf	C4_interf_01.arm	C4_interf_01	C4_interf_01.arm	C1_interf_01			
11	3	Intelligence	9	Defend	Interf	Interf	C1_defend_normal_01.arm	C1_defend_normal_01	C1_defend_normal_01.arm	C1_defend_normal_01			
12	4	Attack	10	Attack	Wipe	Wipe	C4_wipe_01.arm	C4_wipe_01	C4_wipe_01.arm	C1_wipe_01			
13	4	Attack	11	Attack	Engage	Engage	C4_engage_01.arm	C4_engage_01	C4_engage_01.arm	C1_engage_01			
14	4	Attack	12	Attack	Attack	Attack	C4_attack_01.arm	C4_attack_01	C4_attack_01.arm	C1_attack_01			
15	4	Attack	13	Defend	Interf	Interf	C1_defend_normal_01.arm	C1_defend_normal_01	C1_defend_normal_01.arm	C1_defend_normal_01			
16	4	Attack	14	Defend	Damage	Damage	C1_damage_01.arm	C1_damage_01	C1_damage_01.arm	C1_damage_01			
17	5	Attack	15	Attack	Interf	Interf	C4_interf_01.arm	C4_interf_01	C4_interf_01.arm	C1_interf_01			

MovieName	TTY	MIG	SPL	2:38
MovieName	TTY	MIG	SPL	2:49

761218		88:58 Mins		
Script	TTY	MIG	SPL	Render
00000000	TTY	MIG	SPL	6:57
00000000	TTY	MIG	SPL	0:40
00000000	TTY	MIG	SPL	1:21
00000000	TTY	MIG	SPL	1:57
00000000	TTY	MIG	SPL	1:36
00000000	TTY	MIG	SPL	1:33
00000000	TTY	MIG	SPL	1:51
	TTY	MIG	SPL	1:45
	TTY	MIG	SPL	2:38
	TTY	MIG	SPL	2:40
	TTY	MIG	SPL	1:22
	TTY	MIG	SPL	0:32
00000000	TTY	MIG	SPL	2:35
00000000	TTY	MIG	SPL	2:15

[illegible]

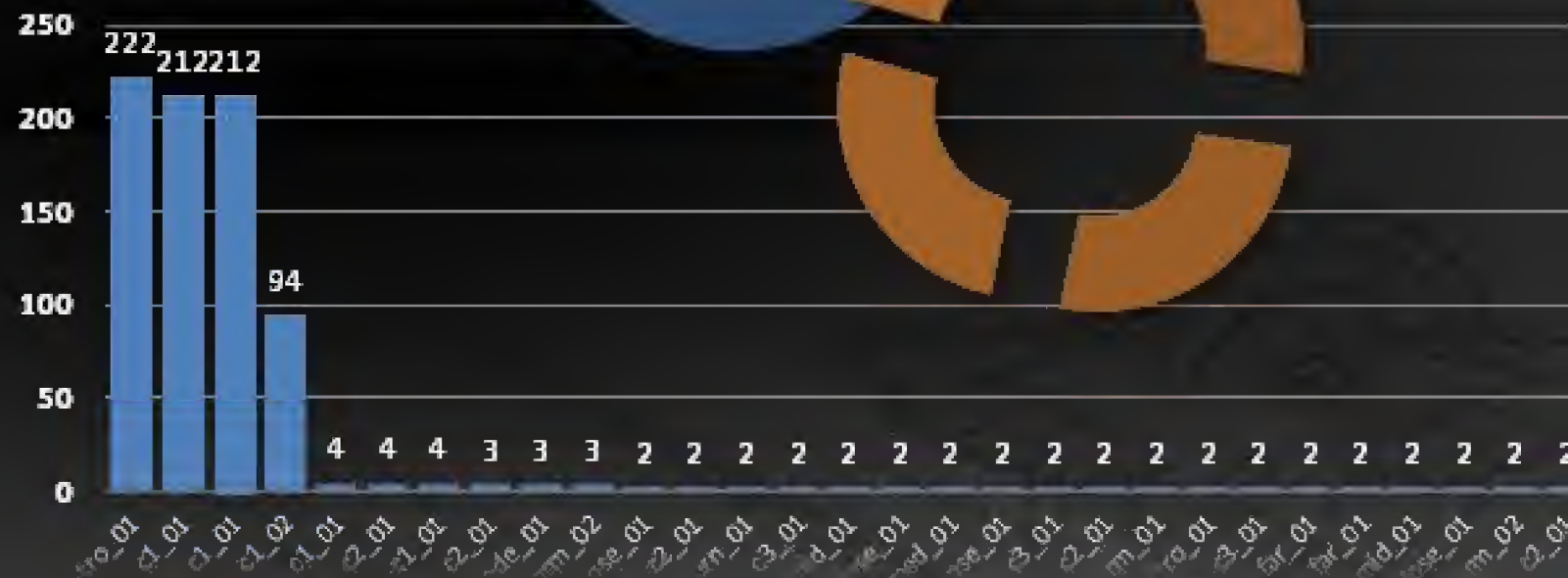
Composed by Max:

[illegible]

Composed by Average with 0.750000 shot category weight

# Statistics Scripts

- Animation Usage Stats
- Sound FX Stats
- VFX Stats



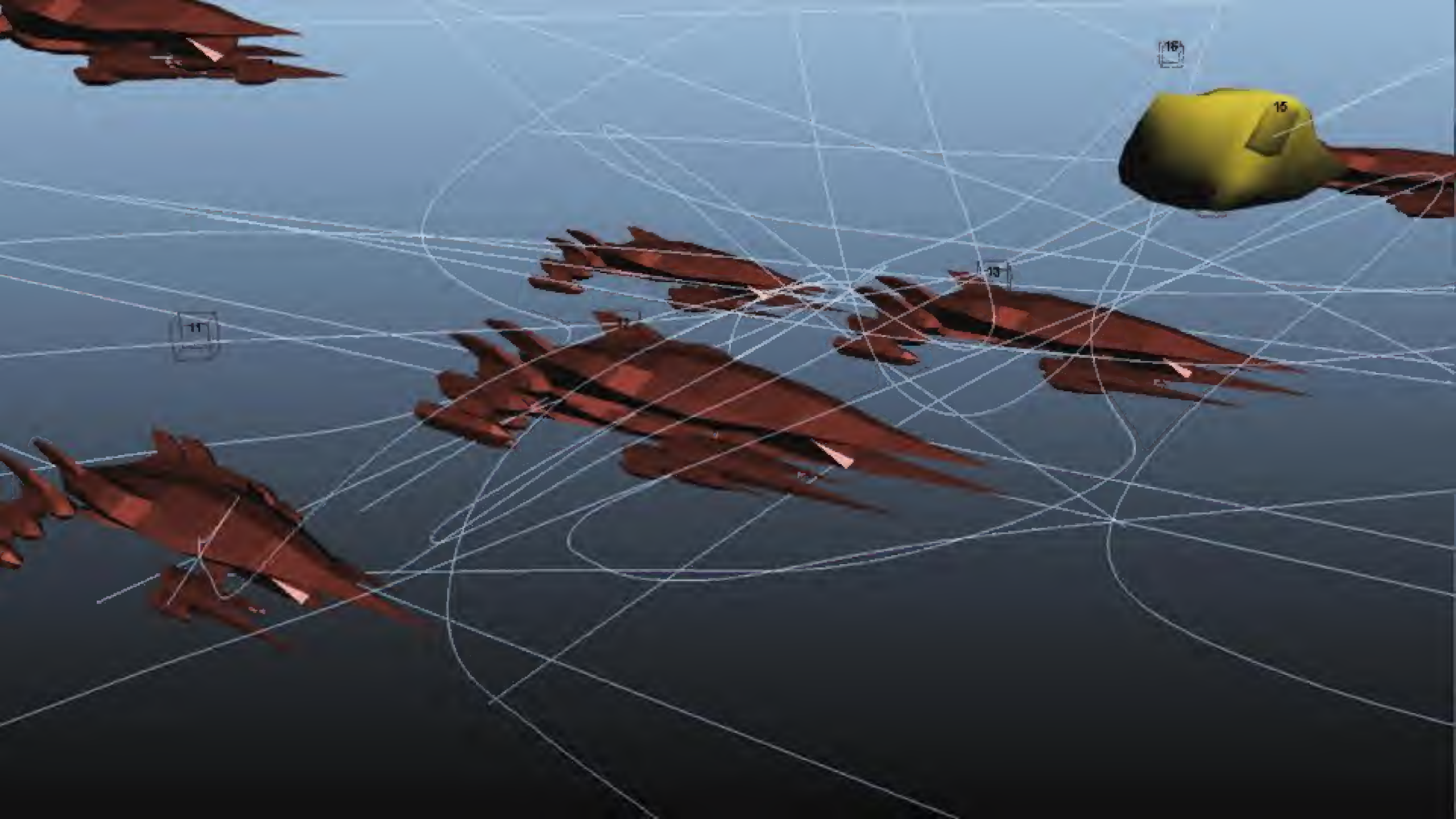
# HOW THE GAME IS ANIMATED



How the Game is Animated

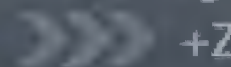
# MAYA TOOLS





# ANIMATIONS

Attacking



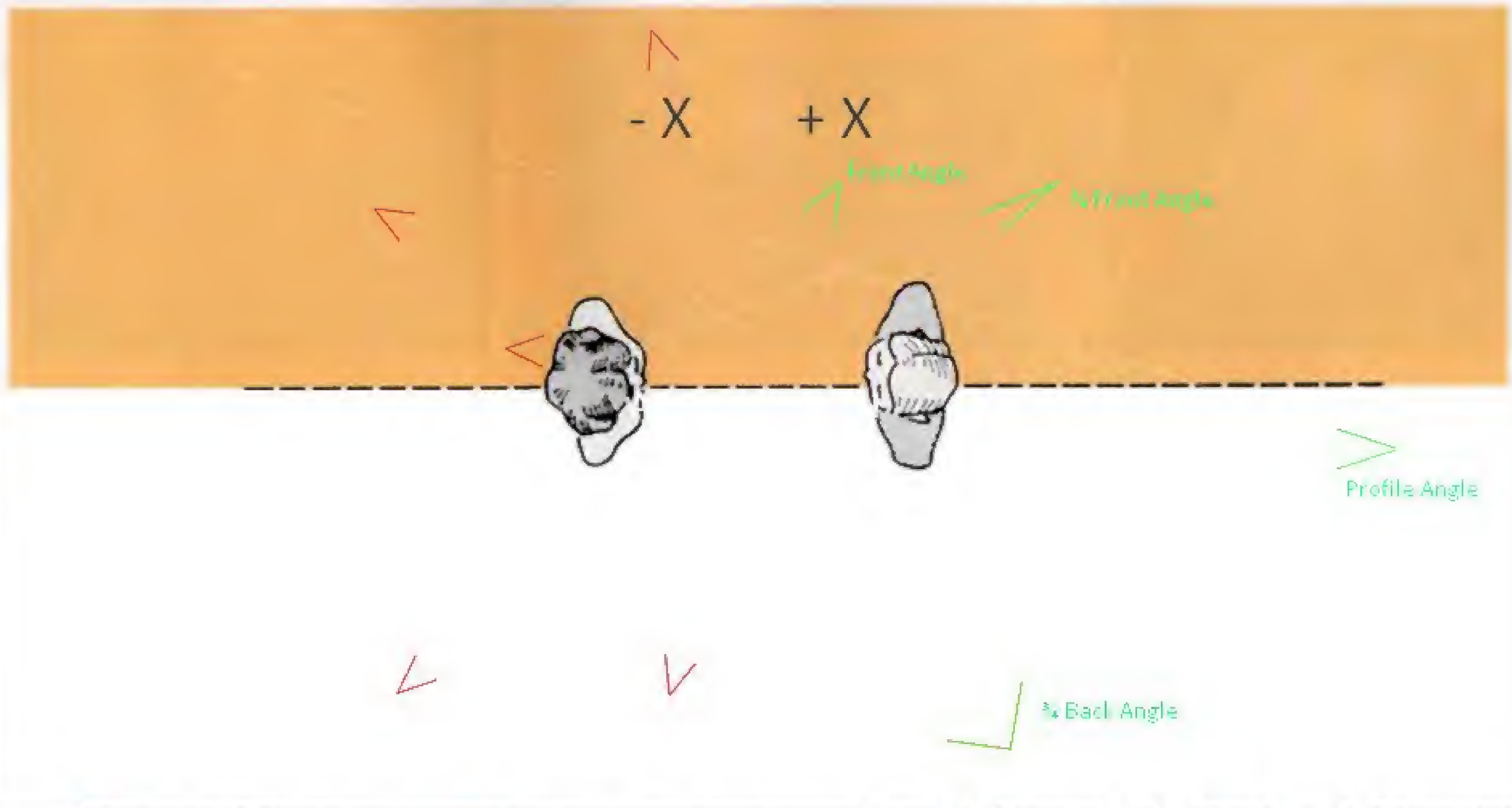
+Z

Defending



0





## ➤ *Animation Issues*

- Animations needed to frame up 'Ship 1' at all times
- Hindered camera selection
- Better AI in camera system would have helped to determine population needed in fleet size and in frame.



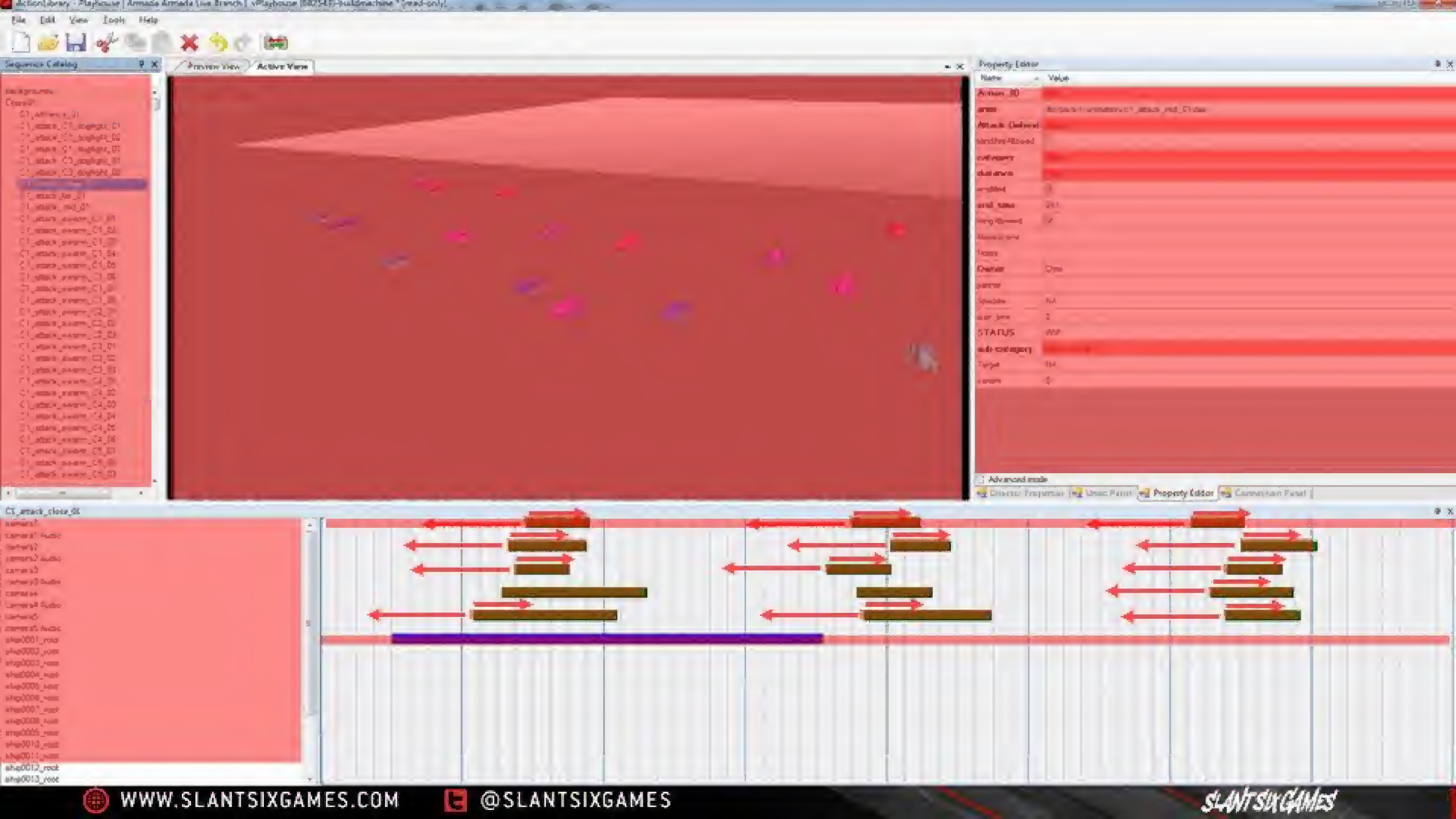
How the Game is Animated

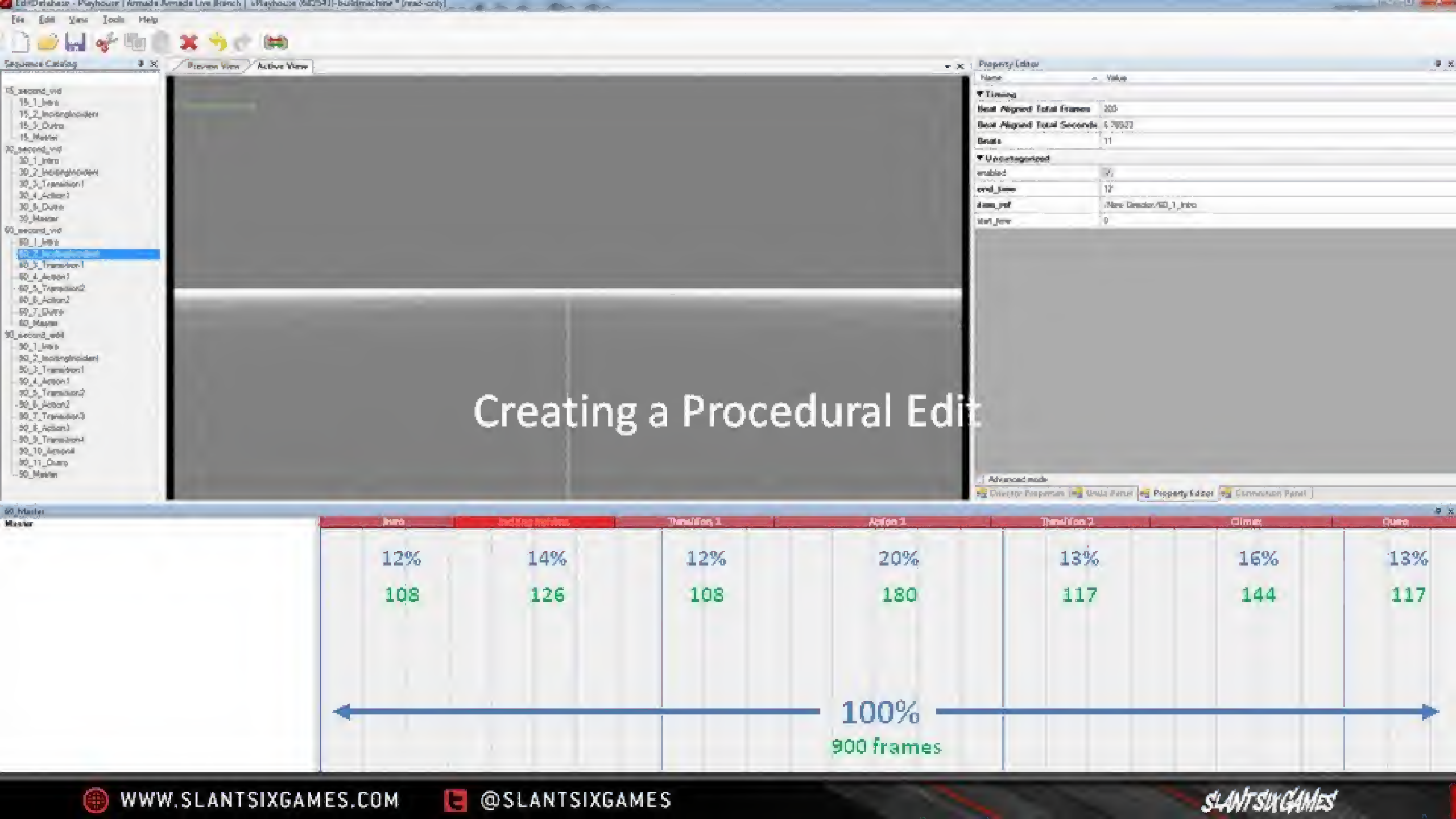
# EDITING WITH PLAYHOUSE



# Removing Data Stomping

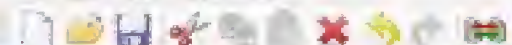






## Creating a Procedural Edit

Intro	Booking Incident	Transition 1	Action 1	Transition 2	Climax	Outro
12%	14%	12%	20%	13%	16%	13%
108	126	108	180	117	144	117
100% 900 frames						



- 15\_second\_vid
  - 15\_1\_intro
  - 15\_2\_introincident
  - 15\_3\_Outro
  - 15\_Master
- 30\_second\_vid
  - 30\_1\_intro
  - 30\_2\_introincident
  - 30\_3\_Transition1
  - 30\_4\_Action1
  - 30\_5\_Outro
  - 30\_Master
- 60\_second\_vid
  - 60\_1\_intro
  - 60\_2\_introincident
  - 60\_3\_Transition1
  - 60\_4\_Action1
  - 60\_5\_Transition2
  - 60\_6\_Action2
  - 60\_7\_Outro
  - 60\_Master
- 90\_second\_vid
  - 90\_1\_intro
  - 90\_2\_introincident
  - 90\_3\_Transition1
  - 90\_4\_Action1
  - 90\_5\_Transition2
  - 90\_6\_Action2
  - 90\_7\_Transition3
  - 90\_8\_Action3
  - 90\_9\_Transition4
  - 90\_10\_Action4
  - 90\_11\_Outro
  - 90\_Master



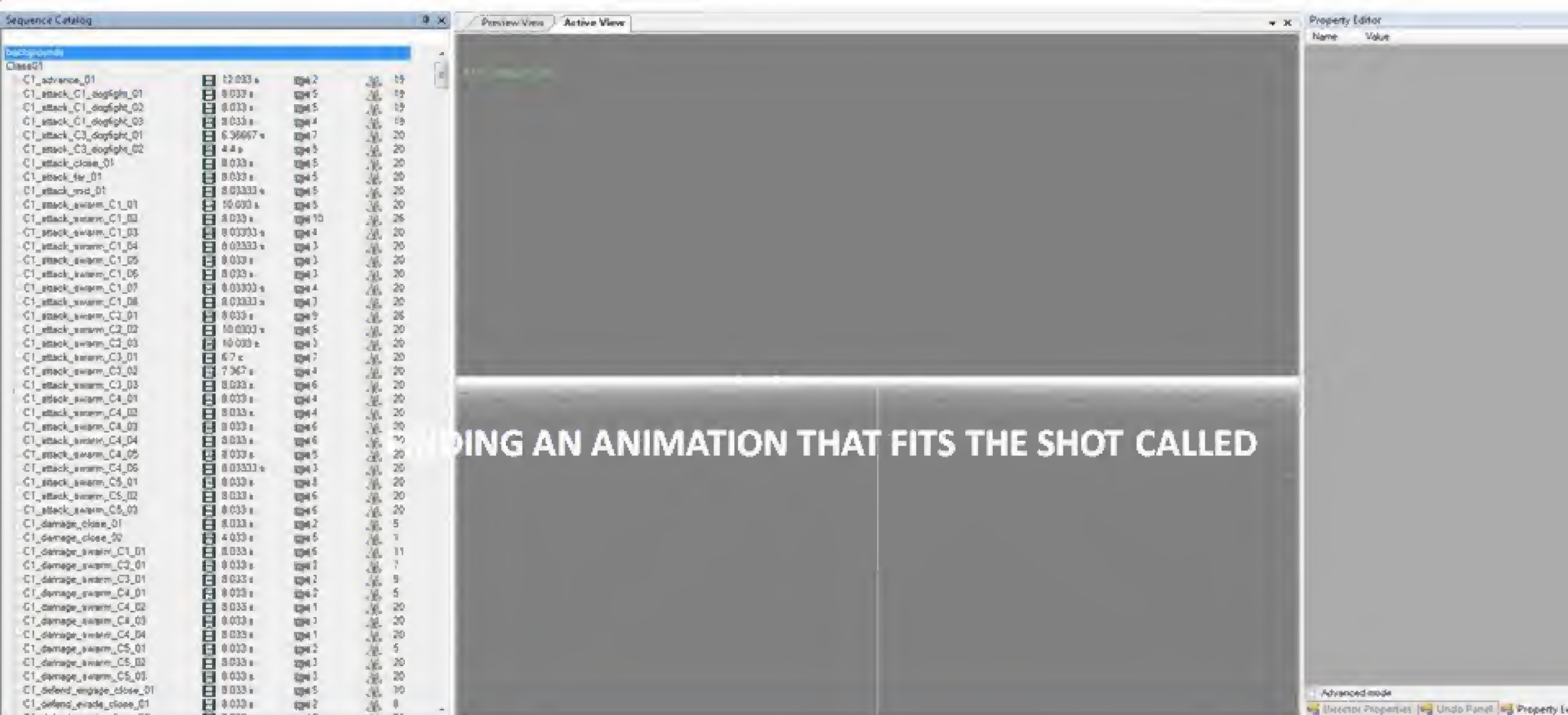
Property Editor	
Name	Value
Timing	
Best Aligned Total Frames	72
Best Aligned Total Seconds	2.4375
Uncategorized	
Category	Parent
enabled	25
end_time	100
focus	Default
OtherCategory	Default
start_time	72



## ➤ *Casting System Issues*

- System was only designed initially to handle 1 fleet vs. another at any time.
- Issues started to arise when there were multiple fleets attacking one another in the game
- Continuity was an ongoing issue with background ships in placement and in action.





Build Output  
[X] Commands on C [X] Retrieved from Cache

Build Output [Error Log]







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